

## **TROPICAL RAINFALL MEASURING MISSION**

**May 31, 1999 - June 06, 1999**

**DOY 151 - 157**

**Day of Mission 550 - 556**

### **TRMM MISSION OPERATIONS**

- TRMM is flying in the +X Forward direction as of 99-150, at 09:21:32z.
- The next Yaw maneuver is scheduled for July 1st (99-182).
- Delta-V maneuver #103 is scheduled for June 11th (99-162) using the LBS thrusters.
- The Beta angle range for DOY 158 to 164 is +31.3° to +56.9°.

### **TRMM SUBSYSTEM OPERATIONS**

#### **Attitude Control System**

Delta-V maneuver #101 was successfully conducted on 99-151 at 15:49:46z and 16:34:00z, for durations of 44.250 and 20.375 seconds respectively, using the LBS thrusters. The off-modulation of the +Pitch thruster (#2) was 22.03% and 17.79% respectively (77.97% and 82.21% on time). The -Yaw off-modulation (thruster #1) for burn 1 was 8.19% (91.81% on-time). The remaining fuel is 725.691 kg and the final apogee and perigee height is 354.94 km x 347.53 km.

Delta-V maneuver #102 was successfully conducted on 99-157 at 14:41:17z and 15:27:08z, for durations of 46.250 and 23.750 seconds respectively, using the LBS thrusters. The off-modulation of the +Pitch thruster (#2) was 21.89% and 24.21% respectively (78.11% and 75.79% on time). The -Yaw off-modulation (thruster #1) for burn 1 was 7.84% (92.16% on-time). The remaining fuel is 724.029 kg and the final apogee and perigee height is 354.82 km x 347.62 km.

The ESA experienced Moon interference in quadrants 2 and 4 during 99-153 through 157. The ACS performed nominally during the transitions between 3 head and 4 head control.

#### **Flight Data System (FDS)/Command & Data Handling (C&DH)**

The frequency standard continues to drift in the negative direction. The frequency remains x'765', with a current drift rate of 0.07  $\mu$ s/hr. The UTCF remains 31535996.863316 sec with a current drift value of 1  $\mu$ s.

EDAC multi-bit errors occurred on 99-151 at 19:47:40z, on 99-1544 at 08:34:47z, on 99-155 at 23:08:14z, and on 99-157 at 18:27:01z and 20:10:20z.

Q-Channel Restarts occurred on 99-155 at 00:46:16z and 22:54:58z and on 99-157 at 14:37:02z and 22:58:49z.

A bus retry error was received for PR on 99-153.

### **Reaction Control Subsystem (RCS)**

The RCS subsystem performed nominally during this period. See the ACS section for specific Delta-V information.

All Delta-V maneuvers since #99 are now using 45 min. as the pre-burn catbed heater turn-on time.

### **Power Subsystem**

The Power subsystem is operating nominally once again.

The orbital status time was reset during eclipse on 99-154, and the PSIB has returned to transitioning between day and night, and the SOC counter is now updating. Also, Autospru was enabled, TSMs #31 and #32 were reset, and the C/D ratio was changed from 1.020 to 1.025. Discussion continues on the plan to patch the PSIB to eliminate this counter anomaly, which possibly exists for 11 subroutines in the PSIB code.

### **Electrical Subsystem**

The Electrical subsystem operated nominally during this period.

### **Thermal Subsystem**

The Thermal subsystem operated nominally during this period.

### **Deployables Subsystem**

The Deployables subsystem performed nominally during this period.

The final testing for parking the -Y solar array 30° is being conducted next week, which includes a modified RTS #5 which re-enables the -Y GSACE sequencer if Sun-Acq occurs.

### **RF/Communications Subsystem**

The RF/Communications subsystem performed nominally during this period.

## **SPACECRAFT INSTRUMENTS**

### **CERES**

CERES personnel are developing a plan for operating the instrument with the +15 V DAA anomaly. Work continues in creating and testing the new Tables and RTSs required.

The next power on for CERES is scheduled for mid-June to coincide with another Australia ground test.

## **LIS**

LIS performed nominally during this time period.

## **PR**

PR performed nominally during this time period. The list of Internal Calibration times in which PR was not radiating is listed below:

1999:151:14:31:04-14:33:17z  
1999:152:06:50:37-06:53:24z  
1999:152:13:19:27-13:20:39z  
1999:152:14:53:29-14:55:37z  
1999:153:13:42:17-13:44:28z  
1999:154:06:00:09-06:05:14z  
1999:154:14:05:26-14:07:16z  
1999:155:12:53:33-12:55:43z  
1999:156:05:11:31-05:16:05z  
1999:156:11:41:57-11:44:11z  
1999:157:12:04:19-12:06:27z

## **TMI**

TMI performed nominally during this time period.

## **VIRS**

VIRS performed nominally during this time period.

## **GROUND SYSTEM**

Y2K testing has been completed on string 3. String 3 operational readiness testing will be performed after completion of rollover testing. String 2 remains the prime Mission Planning string for normal spacecraft operations.

The prime FEP failed during the 99-152/1520z event due to an Overflow condition of Channel #1, which caused a failover (Event #104). The FEP was recovered for the next event.

## **Event Reports**

#104: Front End Processor #1 Temporary Failure (see Ground System).

## **Generic Late Acquisition Reports (for TTRs 19639)**

No new generic late acquisition reports were generated during the week.

**New Anomaly**

No new anomaly reports were generated during the week.

**Recurring Open Anomalies**

No recurring open anomaly reports occurred during the week.

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